



City of Wilmington Pedestrian Safety Study

Wilmington Pedestrian Audit

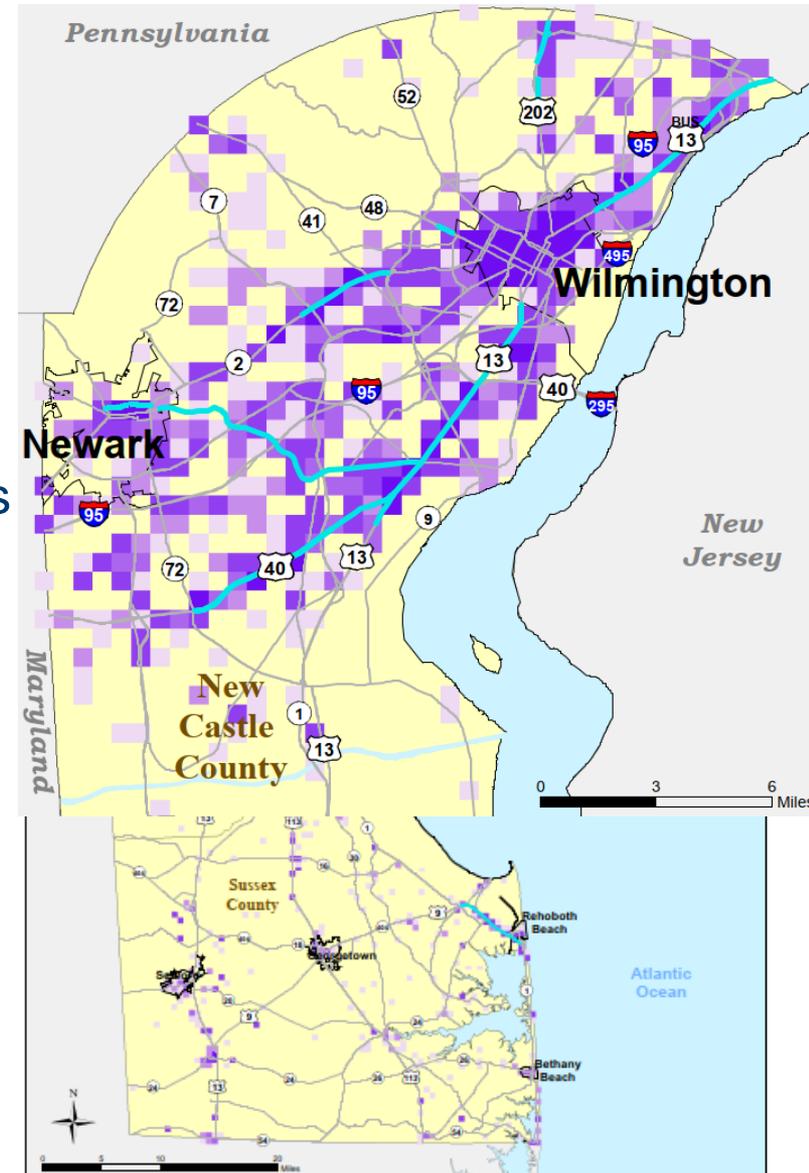
King Street: Front Street to 16th Street

July 14, 2023



Purpose of Study

- Why are we here?
 - Improve pedestrian safety within City
 - Improve walking as a mode of transportation
 - Access to jobs
 - Access to recreation
 - Access to economic improvements
 - Major corridors surrounding Wilmington have been studied
 - US 13
 - SR 141
 - US 202
 - Philadelphia Pike
 - Site selection conducted in 2019 pinpoints Wilmington as next logical study location



- Review city-wide pedestrian crash history
- Identify critical corridors and intersections
- Convene stakeholder group
- **Pedestrian safety audits of selected critical corridors and intersections**
- Systemic pedestrian treatments at other locations

Stakeholder Group

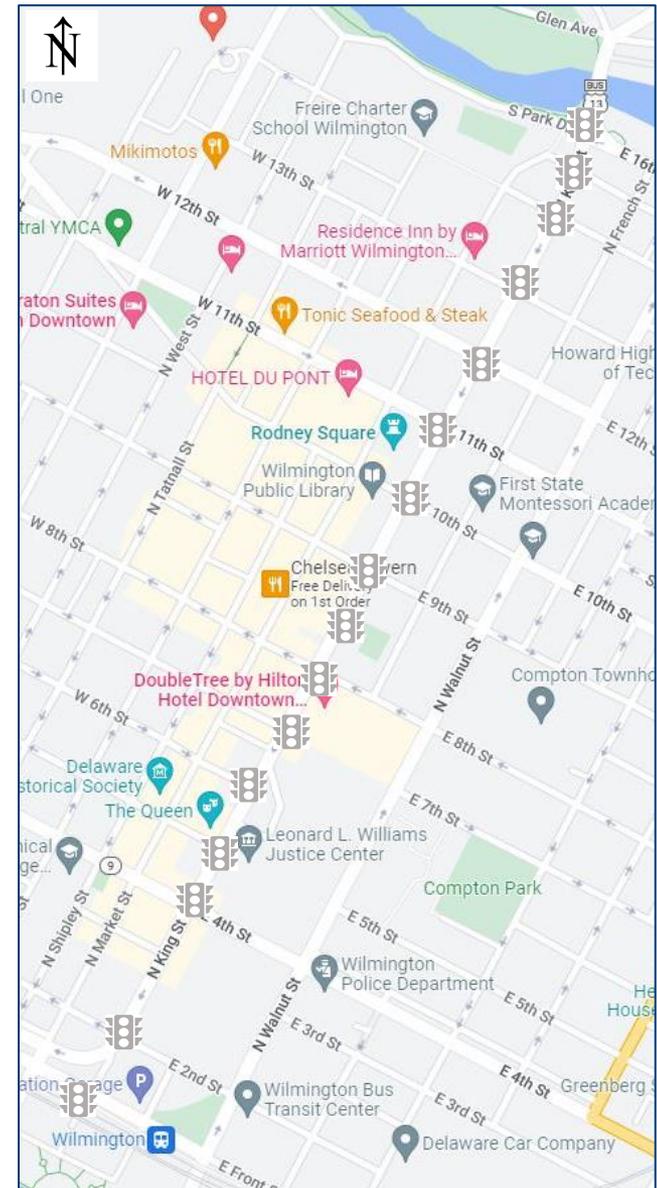
- Peter Haag, DelDOT
- Sonya LaGrand, DelDOT
- Diane Gunn, Century, DelDOT Wilmington Projects Manager
- Paul Moser, DelDOT
- Meaghan Barna, DelDOT
- Aimee String, DelDOT
- Catherine Smith, DTC
- John Calnan, DTC
- Capt. Rodney Layfield, State Police
- Lt. Lance Skinner, State Police
- Richard Klepner, Office of Highway Safety
- Jackie McDermott, Office of Highway Safety
- Stephen Weber, City of Wilmington
- Tom Ogden, City of Wilmington
- Jeff Starkey, City of Wilmington
- Kelly Williams, City of Wilmington
- Sgt. Pete Leccia, Wilmington Police
- Dave Gula, WILMAPCO
- Federal Highway Administration

KING STREET

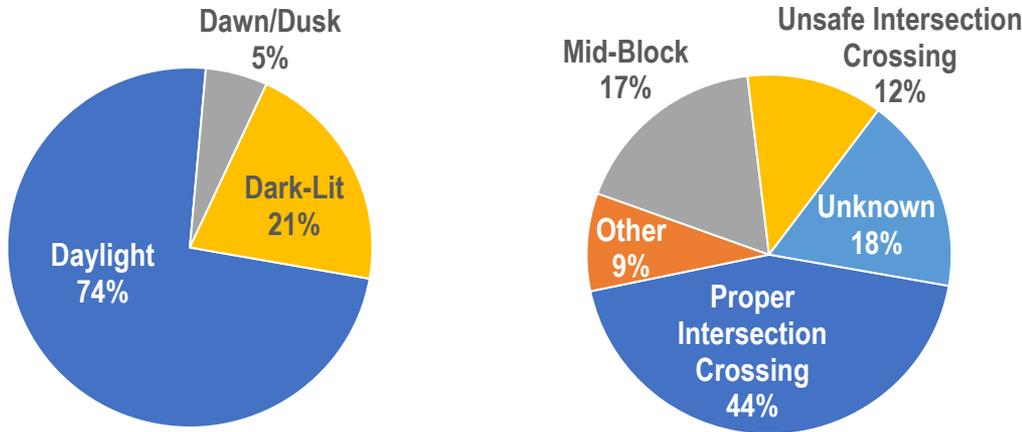
FRONT STREET TO 16TH STREET

King Street Corridor

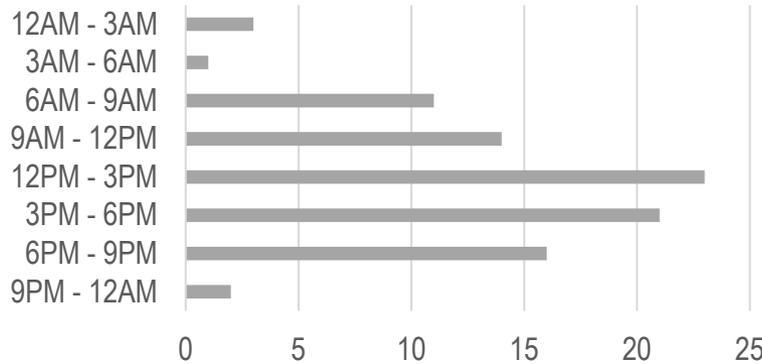
- 0.95-mile Urban Principal Arterial
- 2019 AADT 11,000 – 25,000
- One-way roadway with SB traffic
- Varies one – three through lanes (11 ft typical lane width)
- Curb-to-curb crossing distances vary from 40 ft – 44 ft throughout corridor
- Additional parking lane from 15th Street to 9th Street, Strayer University to 6th Street, and 5th Street to Front Street
- Turn lanes at major intersections
- Sidewalks and lighting present
- 25-MPH speed limit
- 16 signalized intersections and 1 unsignalized intersection
- Numerous unsignalized mid-block parking lots and driveways



91 Crashes (2007 – 2020)



Time of Day Crashes



of crashes per intersection



H. Fletcher Brown Park Pedestrian Improvements

(DeIDOT Local Assistance Planning)

- Two phased project
- Phase 1 converts King Street to two-way, bike lanes on the Market Street Bridge, signal rebuild at King/Market and 16th Streets
- Phase 2 covers the northern end of the Market Street Bridge (at 18th Street), adding pedestrian crossings of all legs, ADA ramps, and ped signals
- Concept plans in development, no implementation timeline currently

Rodney Square Phase 2 Improvements

(City of Wilmington)

- Currently in design
 - First set of entrance plans submitted for review in April 2022
- Objectives
 - Improvements include accessible walkways, landscaping improvements, new bus shelters on 10th and 11th streets

Lighting Assessment

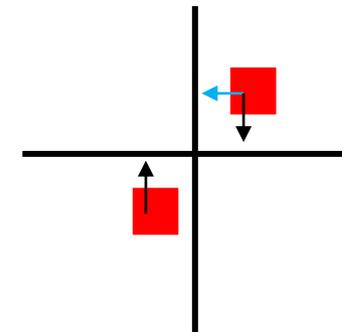
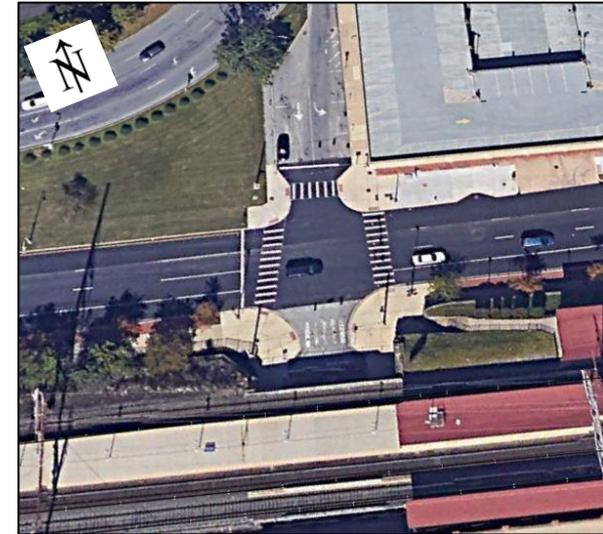
- Qualitative driving assessment
- Streetlamps and LED luminaires are common
- Midblock coverage strong
- Lighting deficient at 5 intersections:
 - 4th Street – West leg
 - 5th Street – West leg
 - 13th Street – East leg
 - 14th Street – East leg
 - 16th Street – East leg



SIGNALIZED INTERSECTIONS

King Street at Front Street

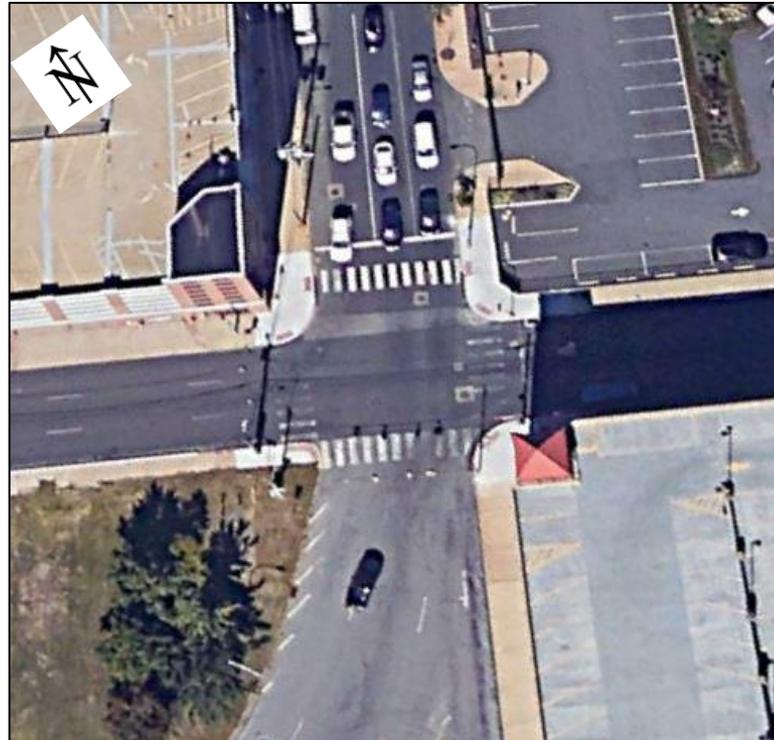
- Zero crashes
- Existing crosswalk on the south leg is faded
- There are two existing ped heads with no countdowns
- There is one existing ped head with a countdown stuck at 20 seconds



 *Indicates countdown stuck at 20 seconds
 *Indicates no countdown

3 crashes

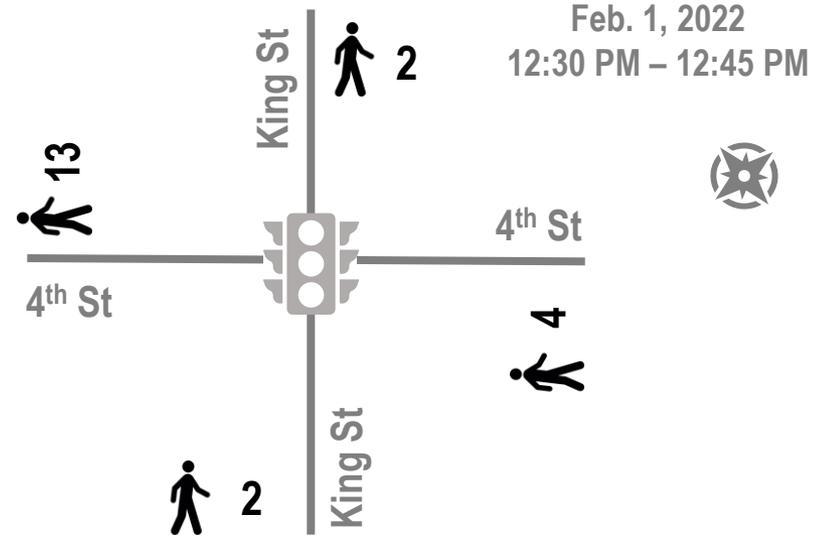
- 3 crashes involving a WBL vehicle striking a pedestrian in the crosswalk (1 crossed against the signal)
- SBR turn on red prohibited



King Street at 4th Street

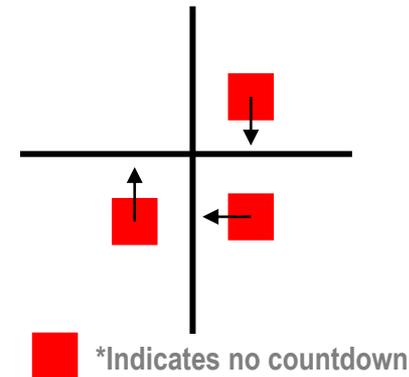
30 crashes

- 16 crashes involving a SBL vehicle striking a pedestrian in the crosswalk (1 crossed against the signal)
- 6 crashes involving a WBL vehicle striking a pedestrian in the crosswalk (1 crossed against the signal, 1 vehicle RLR)
- 2 crashes involving a vehicle reversing and striking a pedestrian
- 1 crash involving a SB vehicle striking a pedestrian crossing against the signal
- 1 crash involving an EB vehicle striking a pedestrian crossing midblock
- 1 crash involving a Dart bus jumping the light and striking a pedestrian in the crosswalk
- 1 crash involving a SB long-boarder crossing against the signal and striking the side of a WB vehicle
- 1 crash involving an unknown vehicle striking a pedestrian in the crosswalk
- 1 crash involving a DUI driver striking a police officer standing next to his patrol vehicle



King Street at 4th Street

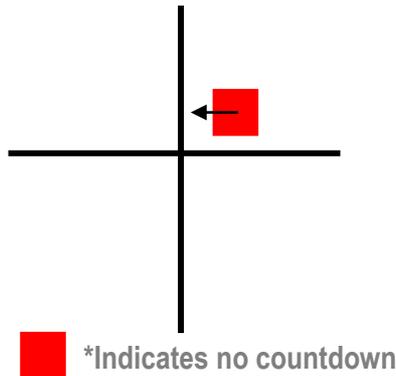
- There are three existing ped heads with no countdowns
- Midblock pedestrians observed south of the intersection
- 4th Street Road Diet
 - 4 travel lanes will remain in the area of King Street due to traffic volume
 - Improve corridor safety through traffic calming and adding a center left turn lane along 4th Street
 - Provide multi-modal connectivity from west center city neighborhoods to the central business district
 - Integrate bike connectivity via a raised bike lane option
- King Street WB left-turn protected/permissive phasing



King Street at 5th Street

3 crashes

- 2 crashes involving a SB vehicle striking a pedestrian crossing midblock
- 1 crash involving a pedestrian crossing against the signal and striking the side of a SB vehicle
- Existing crosswalk on the north leg is faded
- There is one existing ped head with no countdown



5 crashes

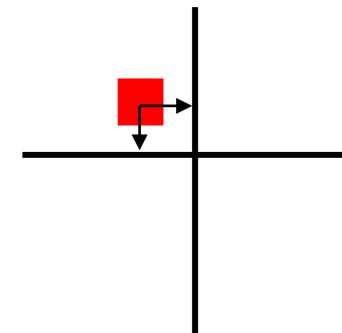
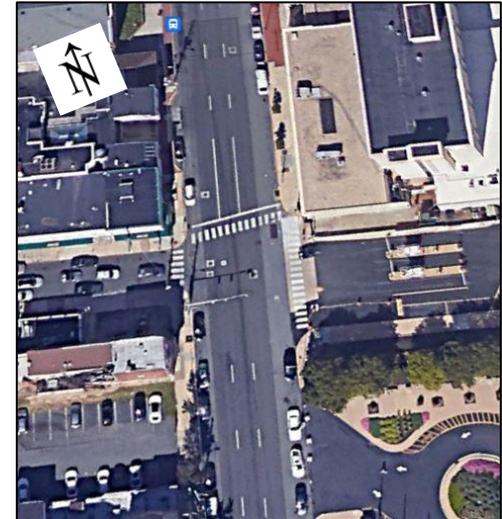
- 3 crashes involving a vehicle exiting/entering a parking lot and striking a pedestrian
- 1 crash involving a bus backing into a parking lot and striking a pedestrian
- 1 crash involving a SB vehicle losing control and striking a pedestrian crossing midblock
- The west crosswalk is brick



King Street at 7th Street

2 crashes

- 1 crash involving a WBL vehicle exiting the DoubleTree parking lot and striking a pedestrian
- 1 crash involving an EB reversing vehicle striking a pedestrian crossing midblock
- There are two existing ped heads with no countdowns
- There are pedestrian signals missing on the east leg
- Midblock pedestrians observed south of the intersection

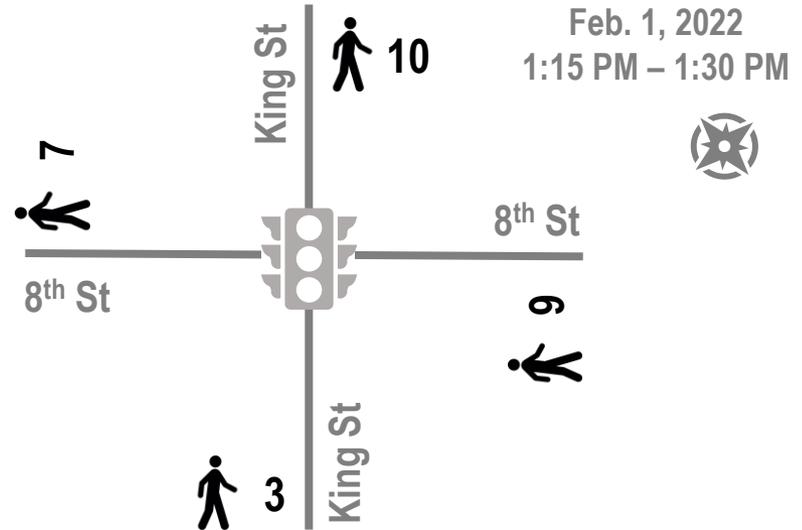


*Indicates no countdown

King Street at 8th Street

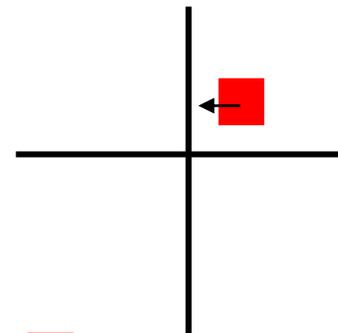
13 crashes

- 5 crashes involving a WBL vehicle striking a pedestrian
- 3 crashes involving a SB vehicle striking a pedestrian (2 crossed against the signal)
- 2 crashes involving vehicles striking pedestrians crossing midblock
- 2 crashes involving a SBR vehicle striking a pedestrian in the crosswalk (1 crossed against the signal)
- 1 crash involving an unknown vehicle striking a pedestrian in the crosswalk



King Street at 8th Street

- All existing crosswalk legs are faded
- There is one existing ped head with no countdown
- Midblock pedestrians observed south of the intersection
 - Wilmington Transit Corridors project includes new bumpout for bus stop at mid-block location south of 8th Street



 *Indicates no countdown

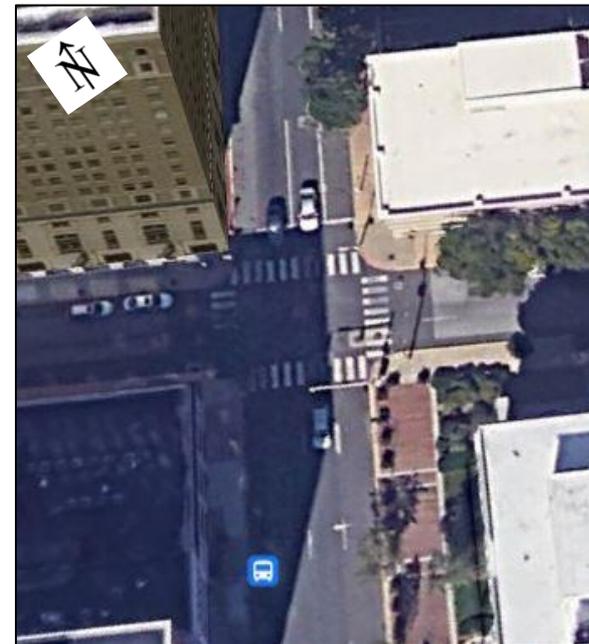
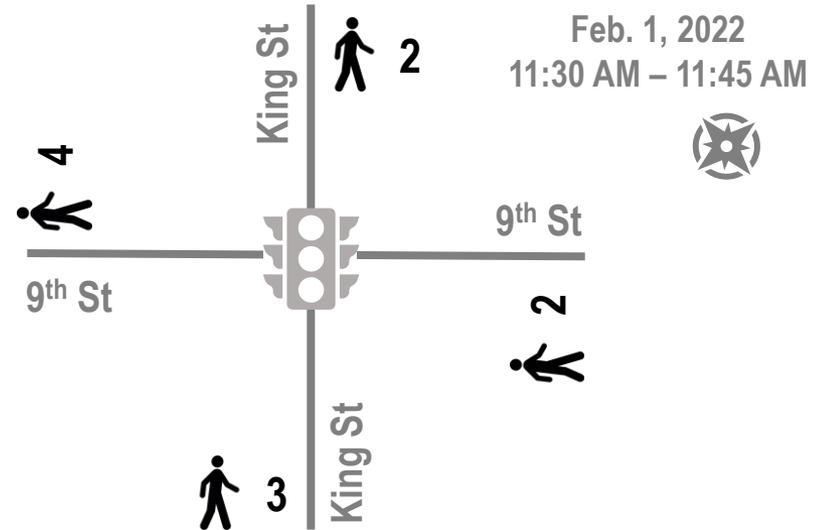
2 crashes

- 1 crash involving an SB vehicle striking a pedestrian crossing midblock
- 1 crash involving a SB vehicle striking a trash collector in the shoulder
- Pedestrian signal is push button activated



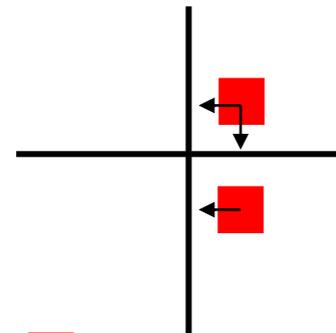
5 crashes

- 3 crashes involving EB vehicles striking pedestrians in the crosswalk
- 1 crash involving an EB vehicle striking a pedestrian standing on the corner
- 1 crash involving a SBL vehicle striking a pedestrian in the crosswalk



King Street at 9th Street

- All existing crosswalk legs are faded
- There are three existing ped heads with no countdowns
- Midblock pedestrians observed south of the intersection
- Wilmington Transit Corridors project includes new curb ramp and crosswalks at intersection

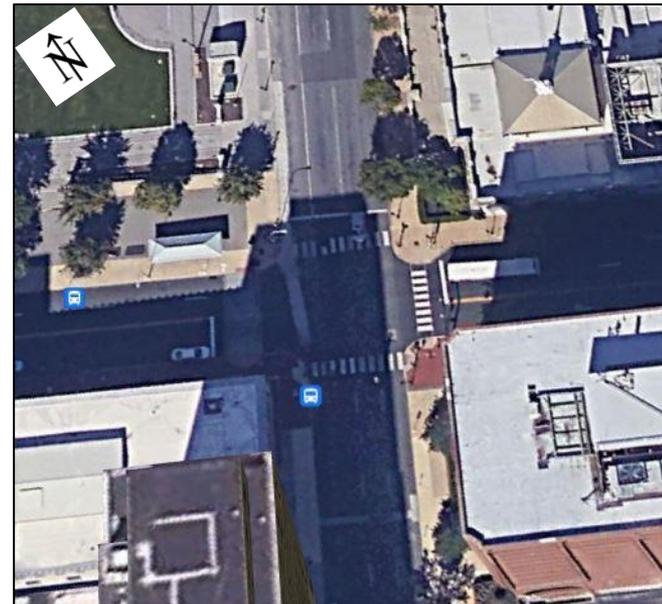
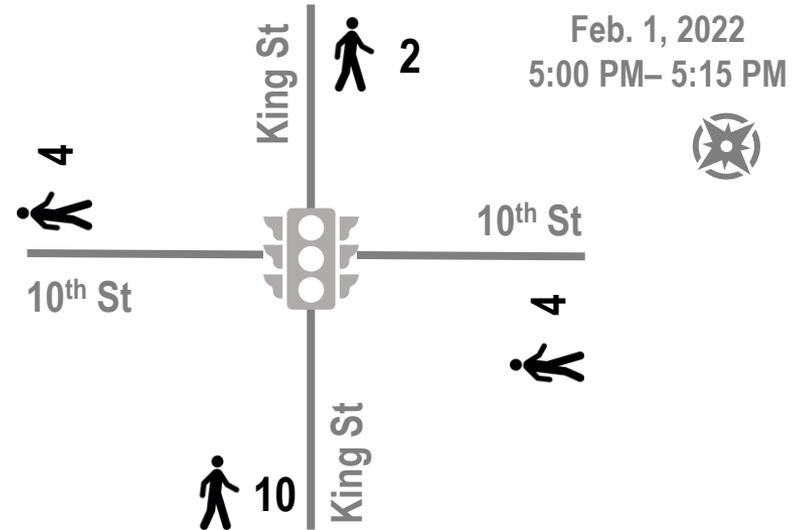


 *Indicates no countdown

King Street at 10th Street

9 crashes

- 2 crashes involving vehicles striking pedestrians crossing midblock (1 intoxicated pedestrian)
- 2 crashes involving 2 WBL vehicles striking a pedestrian in the crosswalk
- 2 crashes involving pedestrians walking into the side of a WB vehicle
- 2 crashes involving SB vehicles striking pedestrians
- 1 crash involving an EBL vehicle striking a pedestrian in the crosswalk



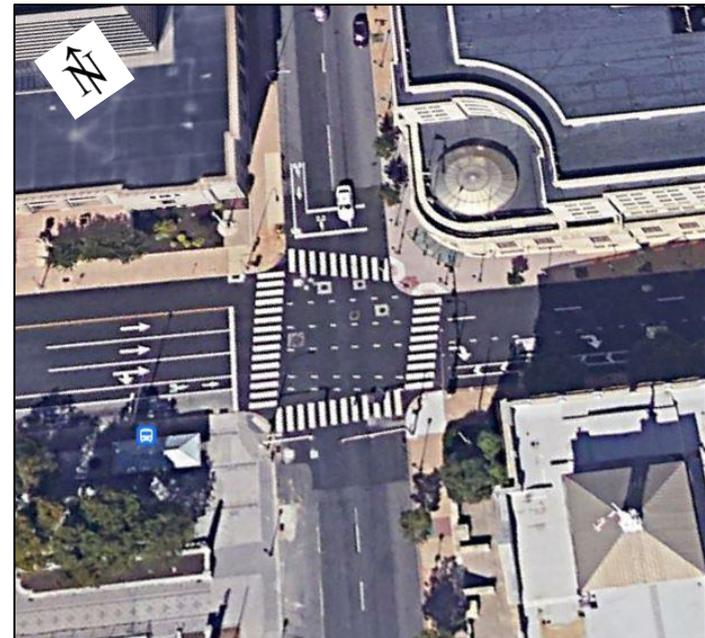
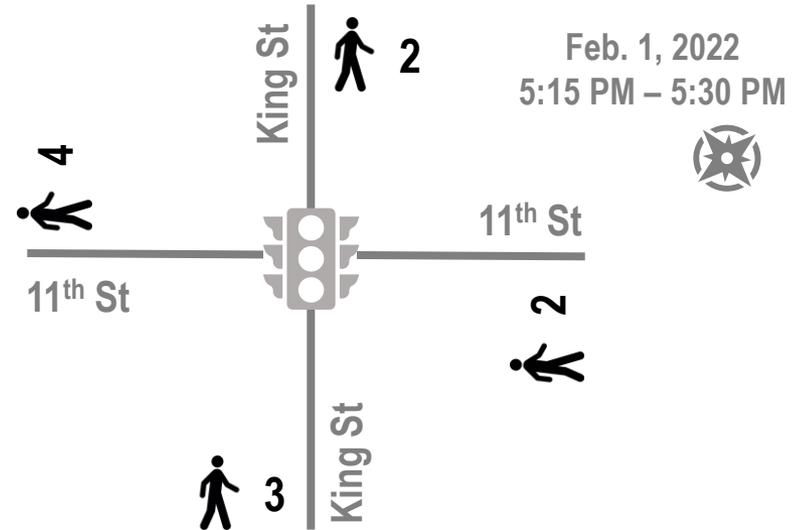
King Street at 10th Street

- Existing crosswalks on the north and south legs are faded
- The west crosswalk is brick
- Midblock pedestrians observed south of the intersection
- SBR and EBR turn on red prohibited
- Wilmington Transit Corridors project includes new pedestrian crossing at intersection

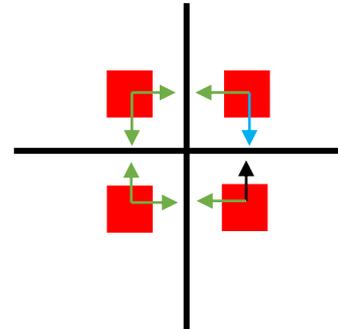


6 crashes

- 2 crashes involving a SBL vehicle striking a pedestrian in the crosswalk
- 2 EB vehicles striking a pedestrian in the crosswalk (1 crossed against the signal)
- 2 EBR vehicles striking a pedestrian outside the crosswalk



- One ped head crossing the east leg displays walk only
- One ped head crossing the east leg does not have a countdown
- Ped heads crossing the north, south, and west legs are off
- Midblock pedestrians observed south of the intersection



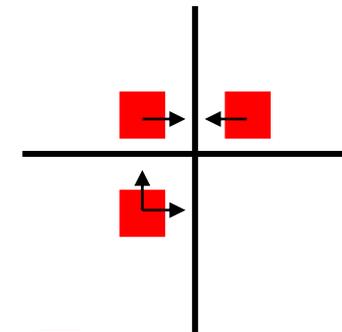
- *Indicates no countdown
- *Indicates walk only display
- *Indicates ped heads off



King Street at 12th Street

3 crashes

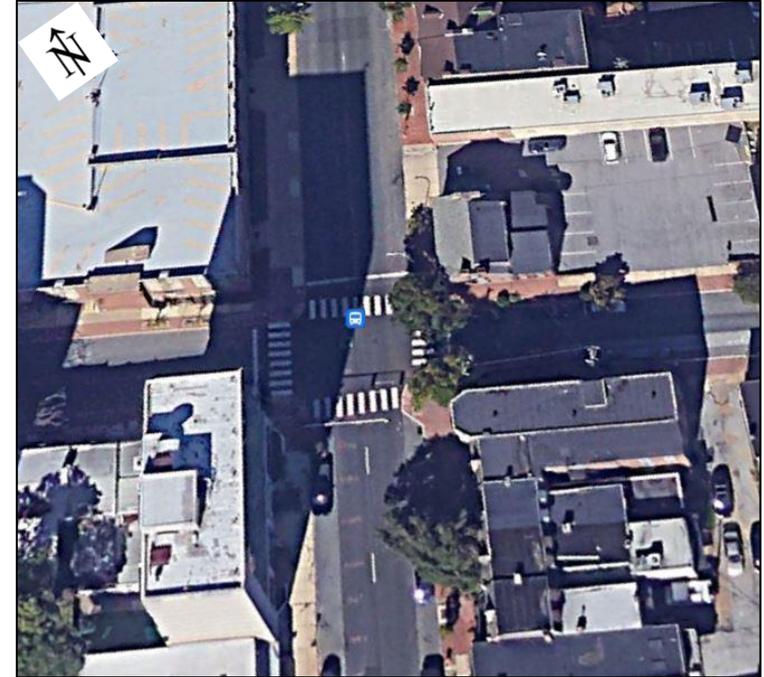
- 2 crashes involving a WBL vehicle striking a pedestrian in the crosswalk
- 1 crash involving a SB vehicle striking a pedestrian in the crosswalk
- Existing crosswalks on the north and south legs are faded
- There are four existing ped heads with no countdowns
- Midblock pedestrians observed south of the intersection



 *Indicates no countdown

4 crashes

- 2 crashes involving an EBR striking a pedestrian
- 1 crash involving a SBL vehicle striking a pedestrian
- 1 crash involving a SB vehicle striking an intoxicated pedestrian crossing midblock
- There are no pedestrian signals crossing the east leg
- Midblock pedestrians observed south of the intersection



King Street at 14th Street

- Zero crashes
- All existing crosswalks are faded
- On the southeast corner, there are no pedestrian signals
- Midblock pedestrians observed south of the intersection

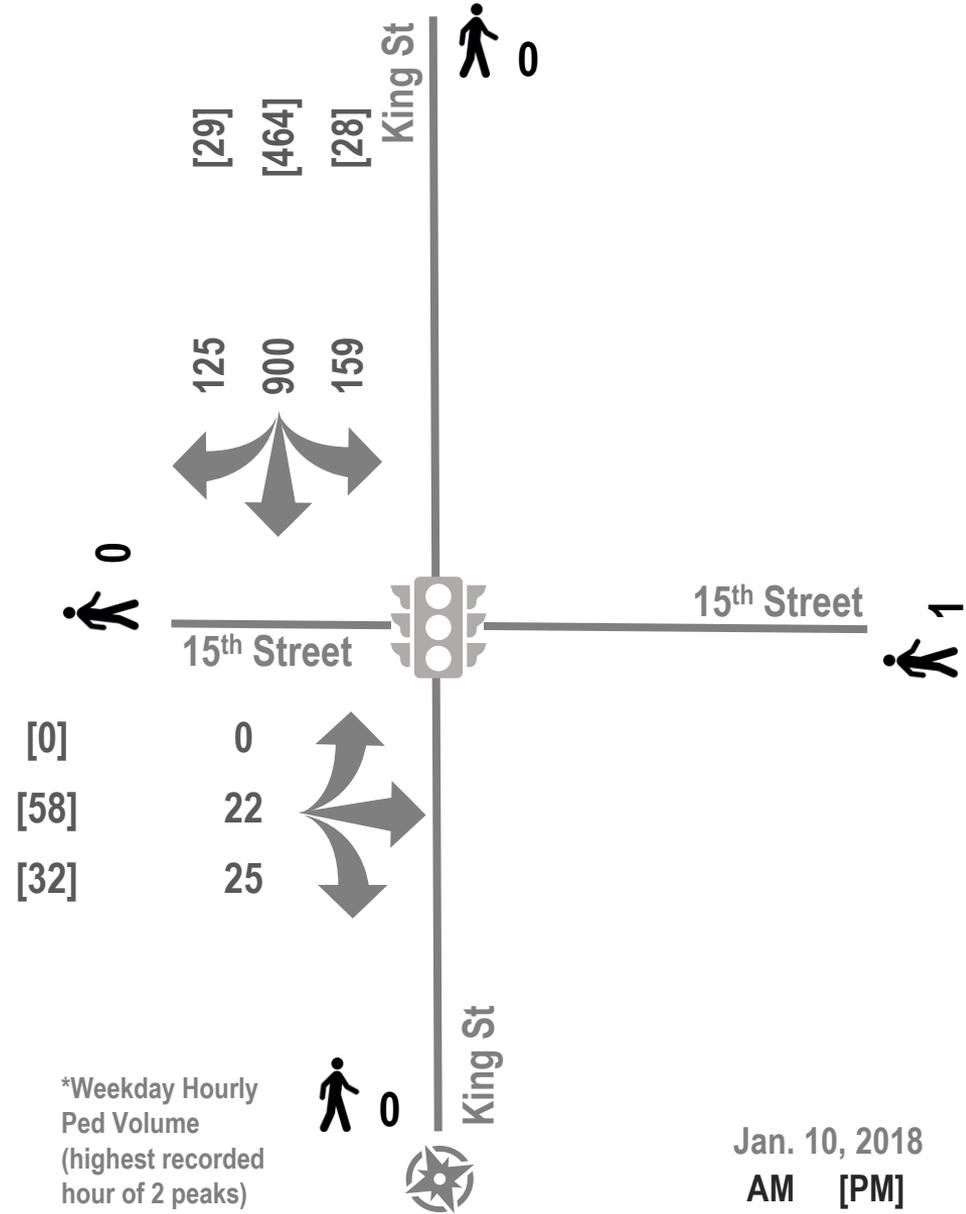


King Street at 15th Street

- **Zero crashes**
- Existing crosswalks on the north, south, and west legs are faded



King Street at 15th Street



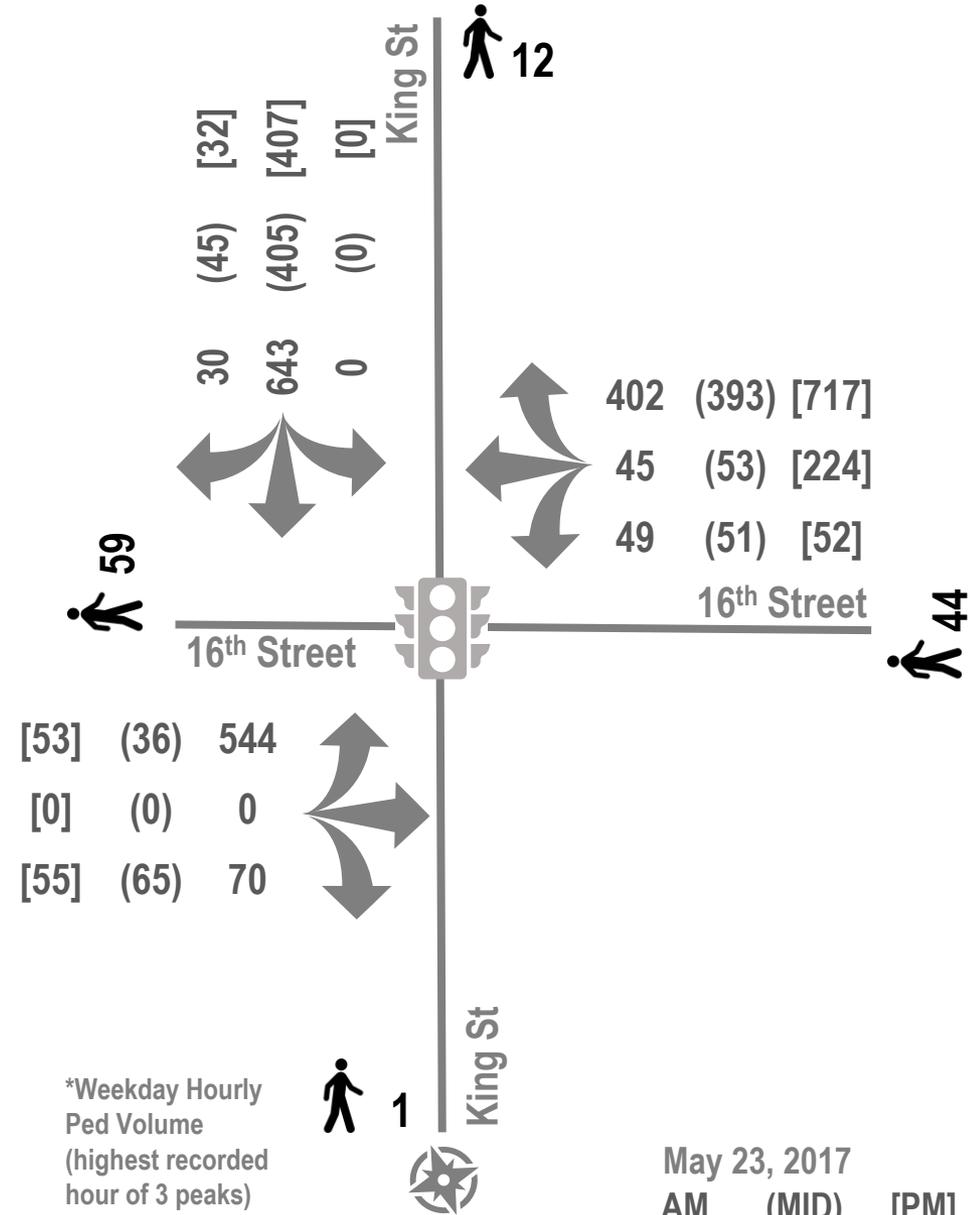
Jan. 10, 2018
AM [PM]

2 crashes

- 1 crash involving a WBR vehicle running over a pedestrian's foot while waiting at the crosswalk
- 1 crash involving an EBR and striking a pedestrian in the crosswalk
- Existing crosswalks on the north and west legs are faded
- On the south and east legs, there are no pedestrian signals and no marked crosswalks
- Midblock pedestrians observed north of the intersection



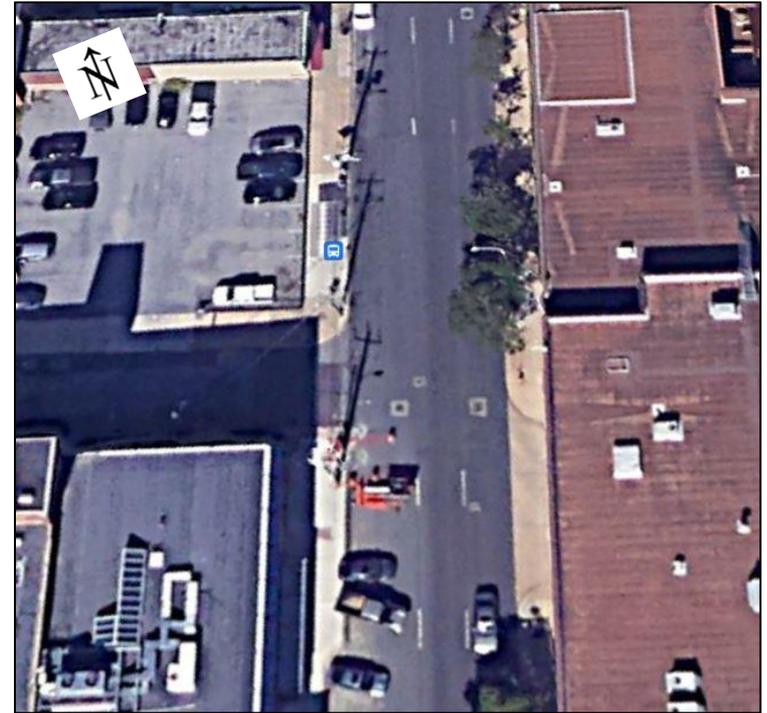
King Street at 16th Street



UNSIGNALIZED INTERSECTION

4 crashes

- 2 crashes involving a pedestrian crossing midblock and being struck by a SB vehicle
- 1 crash involving a WBL vehicle striking two pedestrians in the crosswalk
- 1 crash involving a SB vehicle striking a stationary pedestrian while performing work duties
- The west crosswalk is brick
- Midblock pedestrians observed south of the intersection
- Wilmington Transit Corridors project is adding a bump out at this bus stop



POTENTIAL RECOMMENDATIONS AND NEXT STEPS

- Refresh faded crosswalks
 - King Street at Front Street south leg
 - King Street at 5th Street north leg
 - King Street at 8th Street north, south, east, and west legs
 - King Street at 9th Street north, south, east, and west legs
 - King Street at 10th Street north and south legs
 - King Street at 12th Street north and south legs
 - King Street at 14th Street north, south, east, and west legs
 - King Street at 15th Street north, south, and west legs
 - King Street at 16th Street north and west legs
- Install missing pedestrian signals
 - King Street at 7th Street – NE and SE corners
 - King Street at 13th Street – NE and SE corners
 - King Street at 14th Street – SE corner

- Upgrade existing pedestrian heads with no countdowns to include countdowns where missing
 - King Street at Front Street (2)
 - King Street at 4th Street (3)
 - King Street at 5th Street (1)
 - King Street at 7th Street (2)
 - King Street at 8th Street (1)
 - King Street at 9th Street (3)
 - King Street at 11th Street (1)
 - King Street at 12th Street (4)
- Upgrade existing pedestrian head to ensure countdown display is not frozen at the King Street and Front Street intersection
- Upgrade existing pedestrian heads to include the walk, countdown, and wait displays at the King Street at 11th Street intersection
- Consider lighting improvements at deficient locations

- Install TURNING VEHICLE YIELD TO PED signs (R10-15) at signalized intersections where RTOR / LTOR is permitted and/or where left turns are permissive
- Consider bumpouts at intersections between 2nd Street and 15th Street where existing parking, a shoulder, and/or travel lanes greater than 12' are present to reduce crosswalk length
- Consider a Leading Pedestrian Interval (LPI) to eliminate the pedestrian / left-turn conflict at the following intersections:
 - King Street at 4th Street
 - King Street at 8th Street





Thank you!

**Questions
& Answers**

